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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/535,387	05/17/2005	Yoshio Yoshida	TIP 034	5809
23408	7590	07/09/2007		
GARY C. COHN, PLLC 1147 NORTH FOURTH STREET UNIT 6E PHILADELPHIA, PA 19123			EXAMINER SHEWAREGED, BETELHEM	
			ART UNIT 1774	PAPER NUMBER
			MAIL DATE 07/09/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/535,387

Applicant(s)

YOSHIDA ET AL.

Examiner

Betelhem Shewareged

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's response along with the Request for Continued Examination (RCE) filed on 04/19/2007 has been fully considered. Claims 1 and 2 are amended, and claims 1-20 are pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 5, 7-12, 14 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. (US 2002/0176970 A1), as evidenced by AEROSIL Datasheet (Internet Print out), in view Otani et al. (US 2001/0036552 A1).

4. Kobayashi discloses an ink jet recording sheet comprising a support, a colorant receiving layer applied on the support, and a boron compound applied onto the colorant receiving layer (abstract and [0090]). The boron compound is equivalent to the claimed treatment solution. The colorant receiving layer comprises a polyvinyl alcohol resin and a pigment containing a vapor phase process silica and a colloidal silica ([0068] and [0074]). The support is a resin coated paper [0174], wherein the coated resin is equivalent to the claimed undercoating layer. AEROSIL 300 is an example of the vapor phase process silica, and has a specific surface area of 300 m²/g, which is evidence by AEROSIL Datasheet. The amount of the vapor phase process silica is at least 50% by

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weight based on total pigment [0074]. The ratio of particles to binder is 1.5/1 to 10/1 [0085]. Kobayashi does not disclose that the colloidal silica has the claimed particle size and shape.

5. Otani teaches an ink jet recording material comprising a support and at least an outermost ink receiving layer having a binder and a pigment (abstract). The pigment can be colloidal silica having an average particle size of 30-500nm and a primary particle size of 5-60nm ([0018] and [0020], wherein the primary particles are linked up into chains to form a secondary particle (line 5 of [0020])).

6. Kobayashi and Otani are analogous art because they are from the same field of endeavor that is the ink jet recording sheet art. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the colloidal silica of Otani with the invention of Kobayashi in order to enhance ink absorbency and provide excellent color reproduction (see [0020] of Otani).

7. With respect to the value of specular gloss, the Office realizes that all of the claimed effects or physical properties are not positively stated by the reference(s). However, the reference(s) teaches all of the claimed ingredients. Therefore, the claimed effects and physical properties, i.e. the value of specular gloss would implicitly be achieved by a composition with all the claimed ingredients. If it is the applicant's position that this would not be the case: (1) evidence would need to be provided to support the applicant's position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties with only the claimed ingredients.

8. Claims 1, 3, 4, 6-13 and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mishima (US 6,183, 851 B1) in view of Otani et al. (US 2001/0036552 A1).

9. Mishima discloses an ink jet image recording medium comprising a support and a coating layer on the support (abstract). The coating layer comprises inorganic particles such as amorphous silica, gamma alumina and colloidal silica, and the particles may be used in combination (col. 8, lines 24-55). The support is a paper laminated with a polyolefin (col. 17, line 20), wherein the polyolefin is equivalent to the claimed undercoating layer. The coating layer further comprises a binder such as polyvinyl alcohol (col. 9, line 66). The ratio of particles to binder is disclosed in col. 11, line 48-62. Mishima does not disclose that the colloidal silica has the claimed particle size and shape.

10. Otani teaches an ink jet recording material comprising a support and at least an outermost ink receiving layer having a binder and a pigment (abstract). The pigment can be colloidal silica having an average particle size of 30-500nm and a primary particle size of 5-60nm ([0018] and [0020]), wherein the primary particles are linked up into chains to form a secondary particle (line 5 of [0020]).

11. Mishima and Otani are analogous art because they are from the same field of endeavor that is the ink jet recording sheet art. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the colloidal silica

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of Otani with the invention of Mishima in order to enhance ink absorbency and provide excellent color reproduction (see [0020] of Otani).

12. With respect to the value of specular gloss, the Office realizes that all of the claimed effects or physical properties are not positively stated by the reference(s). However, the reference(s) teaches all of the claimed ingredients. Therefore, the claimed effects and physical properties, i.e. the value of specular gloss would implicitly be achieved by a composition with all the claimed ingredients. If it is the applicant's position that this would not be the case: (1) evidence would need to be provided to support the applicant's position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties with only the claimed ingredients.

13. With respect to the amount of colloidal silica based on the total particles, the experimental modification of this prior art in order to ascertain optimum operating conditions fails to render applicants' claims patentable in the absence of unexpected results. *In re Aller*, 105 USPQ 233. One of ordinary skill in the art would have been motivated to adjust the amount of colloidal silica in order to optimize ink receiving and printing properties of the layer. A prima facie case of obviousness may be rebutted, however, where the results of the optimizing variable, which is known to be result-effective, are unexpectedly good. *In re Boesch and Slaney*, 205 USPQ 215.

Response to Arguments

14. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.


Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betelhem Shewareged whose telephone number is 571-272-1529. The examiner can normally be reached on Mon.-Fri. 8:00AM-4:30PM.

16. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

17. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BS
July 4, 2007.


BETELHEM SHEWAREGED
PRIMARY EXAMINER